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Massachusetts Health Care Cost Trends

Premiums and Expenditures

Appendix B. Data and Methodology

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DIVISION OF
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Appendix B. Data and Methodology

Premium Trends

Findings related to premium trend are based primarily on premium, claims, membership, and non-medical expense data provided by the largest health insurance carriers in the Commonwealth from 2008 to 2010.[1] Preliminary analysis on quoted 2011 premium rate increases is also provided for small and mid-size groups.[2] The premium trend findings focus mainly on the fully-insured market; however, some self-insured enrollment data are reported. The findings related to premiums are based on Massachusetts residents and out-of-state residents that are covered under Massachusetts contracts.

Oliver Wyman developed a data request that was reviewed by the Division of Health Care Finance and Policy (DHCFP) and forwarded to the participating carriers. This request specified the content for premium, claims, membership, and pricing data including non-medical expenses. For this study, DHCFP requested that carriers provide data on their commercial medical products for all group sizes including individuals. Products that are specifically excluded from this study are: Medicare Advantage, Commonwealth Care, Medicaid, Medicare supplement, Federal Employees Health Benefits Plan (FEHBP), and non-medical (e.g., dental) lines of business.

DHCFP requested detailed membership data from the carriers for their fully-insured business. The reported members may reside inside or outside of Massachusetts; out-of-state members are most often covered by an employer that is located in Massachusetts. These out-of-state members have been included in all sections of this report related to premium trend for consistency with the premium data which also includes out-of-state members. For self-funded business, annual member months and average employer size were requested.

Carriers that responded to the data request included:

- Blue Cross and Blue Shield of Massachusetts, Inc.
- Blue Cross and Blue Shield of Massachusetts HMO Blue, Inc.
- Fallon Community Health Plan, Inc.
- Fallon Health & Life Assurance Co.
- Harvard Pilgrim Health Care, Inc.
- Harvard Pilgrim Insurance Company, Inc.
- Neighborhood Health Plan, Inc.
- Tufts Associated Health Maintenance Organization, Inc. (d/b/a/ Tufts Health Plan)
- Tufts Insurance Co.
- United HealthCare of New England, Inc.

1 The analysis in this report relies on premium, claims, and membership data submitted by major Massachusetts health plans. These data were reviewed for reasonableness, but they were not audited. When reported data was not consistent, some carriers were eliminated from the analysis. To the extent the remaining data are incomplete or inaccurate, the findings are compromised.

2 Data was not requested for individuals and large groups.

Oliver Wyman analyzed the data for each company separately. Because of data issues, Fallon was excluded from the analysis. Ultimately, those payers that were included in the analysis provide coverage to 83 percent of enrollees in the commercial fully- and self-insured markets.[3]

Carrier-provided data was supplemented with reported financial statement data. In 2008, Oliver Wyman produced a report for the Division of Insurance entitled *Analysis of Administrative Expenses for Health Insurance Companies in Massachusetts*. The analysis was performed using published annual financial statements. That analysis has been updated in this report with data through the 2010 annual statutory financial statements of the applicable companies. Similar analyses were performed related to loss ratios and claims expenditures for the comprehensive major medical line of business.

Carriers provided their annual premiums by market sector for 2008 through 2010. Carriers also provided their rating factors in use in the second quarter of 2011, as well as member months by age, gender, area, and group size. Using the annual premiums and aggregate annual member months, DHCFP calculated unadjusted premiums per member per month (PMPM). It is possible that using the second quarter of 2011 factors for all periods in the study has a slight impact on the resulting premium trends. However, it was determined that it was not feasible to request factors for each quarter. Furthermore, the factors are actually applied based upon effective date of issue or renewal which was not feasible to model in this analysis. It is not anticipated to materially skew the results.

The annual premiums were adjusted by age, gender, area, group size, and benefits. Adjustments were performed by first adjusting the rating factors to make each carrier's factors relative to a common demographic. Age/gender factors were relative to a 45 year old male and area factors were relative to Boston. A weighted average adjusted factor was calculated for each calendar quarter and then for each calendar year. Finally, the unadjusted premiums were divided by the average rating factors to develop expected premiums PMPM, adjusted to the demographics represented by the 1.0 factors.

Note that for this analysis, rating factors applied to mid-size and large groups reflected a premium based on a manual rate and not on the group's own experience. In the market, actual premiums would be based on a combination of the manual rate and an experience rate with the proportion of each depending on the group's size. The largest groups are typically rated based entirely on their own experience. Therefore, this analysis makes the assumption that actual experience will follow the claim pattern assumed in the manual rating factors. Actual premiums may differ. This approach is not anticipated to have a material impact on the results. Rather, it is anticipated that the manual rate would be determined consistent with the overall average experience of the covered groups.

3 Membership reported to DHCFP by commercial health plans.

Finally, the individual market was excluded from the adjusted premium analyses. Detailed data was not requested for this segment for all rating factors. Since individuals post-merger are rated as one pool with small employers, we would anticipate the adjusted premium trends for individuals in the merged market to be similar to the small employer premium trends.[4] Relatively few individuals remain in the pre-merger individual market which is not the primary focus of this study.

Adjusting the premiums for benefits required a separate analysis from the rating factor adjustments. In the small group market the analysis was similar to other rating factors except that only products that represented at least 5 percent of the small group market were included in the analysis. Over the three-year period of the study, members in products with at least 5 percent of the small group market represented 75 percent to 80 percent of the total small group market. In the mid-size and large group market sectors, carriers generally allow groups to customize their benefit designs. This leads to a volume of unique benefit designs that is not feasible to analyze in the manner that was done for the small group sector. Oliver Wyman's proprietary pricing model was used in the analysis of mid-size and large group benefits. First, the small group products that were provided were modeled and the results were compared to the benefit relativities provided by the carriers. The model was calibrated using this comparison. Then, for each carrier and each calendar year the ratio of paid claims to allowed claims was calculated based on data provided by the carriers. The calibrated pricing model was then used to estimate the actuarial value of mid-size and large group benefits based on a given paid to allowed claims ratio. The unadjusted premiums were divided by the estimated actuarial values to determine the premiums adjusted for benefits. Given the limitations of the data available, this analysis did not include limited network impact in the actuarial value.

4 Massachusetts General Laws Part I, Title XXII, Chapter 176J, Section 3
(Available at: http://www.malegislature.gov/Laws/GeneralLaws/PartI/TitleXXII/Chapter176J/Section3, accessed January 19, 2012.)

Total Medical Expenses

Findings related to Total Medical Expenses (TME) are based on carriers' annual filings to DHCFP for calendar years 2009 and 2010. These filings include enrollment and health status data as well as claims payments and non-claims payments by type of service. The claims are reported separately by ZIP code for Massachusetts residents only, and by primary care physician group which includes both Massachusetts and out-of-state residents.

Regulation 114.5 CMR 23.00 governs the reporting method and filing requirements for health care payers reporting TME. The regulation requires the annual filing of TME data by: the twelve largest private health care payers as determined by DHCFP based on Massachusetts health care payments; private payers that contract with MassHealth (the Commonwealth's Medicaid program), the Commonwealth Connector, or the Group Insurance Commission; and Medicare and MassHealth. TME data must be filed for primary care physician groups and by member ZIP code.

Primary care physician group TME measures the total per member health care spending of members whose plans require the selection of a primary care provider associated with a physician group. Because health plans can only link a member's medical spending to a primary care provider if the member participates in a managed care plan, physician group TME contains exclusively managed care member information. The data reported for each physician group include total health care expenditures for these members, even when care was provided outside of the physician group.

ZIP code TME measures the total per member health care spending of each Massachusetts ZIP code, based on member residence, rather than where members received services. ZIP codes are self-reported by members, which may lead to certain inaccuracies, particularly in areas with high student or other transient populations.

TME can be measured on an unadjusted basis which reflects actual spending but does not consider differences among member populations. TME may also be adjusted to reflect differences in member demographics and health status such as age, gender, and clinical profile. This report presents both unadjusted and health status adjusted TME data.

Unadjusted TME is presented for aggregated analyses across payers, such as statewide and regional analyses. Unadjusted TME had to be used for such purposes since payers in this analysis utilized different methods in adjusting for health status, and health status adjusted TME results calculated from different health status adjustment methods cannot be directly compared.

Health status adjusted TME is analyzed in order to compare health care expenditures of different member populations within a payer's membership. TME is presented on a health status adjusted basis for payer-specific regional analysis, managed and non-managed populations, and primary care physician groups within a payer's network.

Physician group practices that serve predominantly pediatric patients cannot be appropriately compared to physician groups that generally care for an adult population due to differences in member populations and resource needs. For this reason, pediatric group practices are not included in the physician group analysis.[5] However, statewide, regional, and payer-specific TME data contains members of all ages, including children.

The analyses in this report are based on data submitted for members with private, commercial insurance. Commercial insurance categories for which DHCFP required reporting are defined below.

Commercial full claims data includes both self- and fully-insured commercial business for which claims for all medical services were available to the reporting carrier. This data captures complete medical spending and was used to calculate commercial TME.

This report does not include data collected by DHCFP for commercial partial claims, which includes self- and fully-insured commercial business where the employer separately contracts for one or more specialized services, such as pharmacy or behavioral health service management. In these cases, the reporting carrier does not have access to the claims for the separately contracted services. As the full range of medical expenses is not included in the data reported by the payers, these partial claims are not included in the TME analyses contained in this report

At the time of this report's development, DHCFP had received preliminary 2010 TME data from twelve payers. Data from three payers was excluded due to data quality concerns. Data from an additional four payers was excluded as they did not report any commercial full claims TME data. Ultimately, these analyses represent calendar year 2010 data submitted by five payers; from which DHCFP analyzed all commercial full claims data received. These five payers account for approximately 66 percent of Massachusetts privately covered lives.[6] However, some data was excluded as it did not capture complete medical spending. Commercial full claims data included in these analyses account for approximately 50 percent of Massachusetts privately covered lives. The list of analyzed payers is below, along with the associated member months for each insurance category for the reporting year.

5 The following pediatric practices are excluded from the physician group analysis of 2010 TME data: Medical Associates Pediatrics, P.C., Woburn Pediatric Associates, LLP, Garden City Pediatric Associates, LLC, Affiliated Pediatric Practices (APP), Cape Ann Pediatrics, Pediatric Physicians' Organization at Children's (PPOC), and CHMC Anesthesia Foundation, Inc. The pediatric groups that were excluded from the 2009 baseline results are: Affiliated Pediatric Practices; Garden City Pediatric Associates; Pediatric Physicians Organization at Children's; and Woburn Pediatric Associates.

6 Estimate based on Division of Health Care Finance and Policy, Health Care in Massachusetts Key Indicators: May 2011, available at: http://www.mass.gov/eohhs/docs/dhcfp/r/pubs/11/2011-key-indicators-may.pdf, accessed 1/11/2012.

Table B.1. Payer Member Months by Insurance Category (2010)[7]

Payer Name	Commercial Full Claims	Member Months Commercial Partial Claims	Medicaid MCO	Medicare MCO
Blue Cross Blue Shield of Massachusetts	13,199,222	5,937,329	-	323,426
Fallon Community Health Plan	1,485,295	220,822	234,869	365,877
Harvard Pilgrim Health Care	7,581,595	405,937	-	300,329
Neighborhood Health Plan	430,590	-	2,103,190	-
Tufts Health Plan	4,058,018	1,612,066	-	972,299

The preliminary 2010 TME data that was available for this report was due by June 1, 2011. The reported claims included paid claims available to the carriers at the time they ran their datasets. However, claims continued to be paid after June 2011 for 2010 dates of service. The 2009 baseline report relied on the final 2009 data submissions which contain additional months of paid claims, since they were due by April 15, 2011. In order to report 2010 claims that are complete and comparable to final 2009 claims, the carriers were asked as part of the premium trend data request to provide completion factors by type of service that could be applied to the preliminary 2010 data to estimate final 2010 data. We note that one carrier expressed concern that while the completion factors are appropriate in aggregate, the carrier believes the results by physician group or region could be distorted. This could happen, for example, if a given provider group or hospital received a significantly higher proportion of claim payments after the submission date than the average. The results for that provider group or the region in which most of the members that receive care from the provider group or hospital reside could be understated. Similarly, other provider groups or regions could be somewhat overstated. The completion factors increased the preliminary claims by less than 5 percent in any given service category for any payer, and in aggregate increased the preliminary statewide commercial full claims by less than 1 percent.

There may be some inaccuracy resulting from differences in the way each payer mapped physicians to provider groups, resulting in different compositions and potentially different TME calculations. Additionally, non-Massachusetts residents and members without full claims were excluded – although non-claim payments from the entire insured population were included – potentially resulting in an overstatement of non-claim payments in TME.

The reported non-claims payment data provided by carriers in the preliminary 2010 TME submission can differ materially from final results. For certain carriers using quality measures, much of the measured quality scores for providers were unavailable at the time of reporting and risk performance was only a projection based on partial year data.

7 Multiple legal entities are included under "payer name" in these results.

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